UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,542	01/12/2004	Hajime Kimura	07977-294002	9260

26171 7590 04/23/2007

FISH & RICHARDSON P.C.
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
HODGES, MATTHEW P	
ART UNIT	PAPER NUMBER
2879	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

TH

Office Action Summary	Application No.	Applicant(s)	
	10/754,542	KIMURA, HAJIME	
	Examiner	Art Unit	
	Matt P. Hodges	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-63* is/are rejected.

7)☒ Claim(s) *7,10,20-23,30,31,38-40,46,48,54 and 56-63* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/061,018.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12-19-2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/2006 has been entered.

Response to Amendment

The Amendment, filed on 12/19/2006, has been entered and acknowledged by the Examiner.

Terminal Disclaimer

The terminal disclaimer filed on 12/19/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,717,359 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Objections

Claims 20, 22, 23, 30, 38, 46, 54, and 56 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Specifically claims 20, 22, 23, 30, 38, 46, and 54 only include the light-emitting layer comprises at least one of an organic material and an inorganic material. These two opposites encompass all possible materials and as such do nothing to further limit the parent claim.

Specifically claim 56 specifies that the previously indicated "layer having a property of transmitting light" contains a transparent material. However, the layer must contain a material, and for the layer to transmit light, at least one material must be transparent. As such, the language does not further limit the parent claim.

Claims 7, 10, 21, 31, 39, 40, 48, and 57-63 are objected to because of the following informalities:

Specifically claim 7 includes the limitation of the "surface of an electrode in contact with the light-emitting layer is uneven". However the claim (or its parent) includes two electrodes. Both electrodes are in contact with the light-emitting layer. It is unclear from the language of the claim if the electrode referred to is the pixel electrode or the cathode.

Claims 7, 10, 21, 31, 39, 40, and 48 are objected to for the same reason as specified above.

Claims 57-63 further include the same problem specified above in claim 7 but with a different limitation. Again, the language does not clearly identify which electrode is the cathode electrode.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6, 7, 9, 10, 12, 13, 15, 17, 19-24, 26, 28, 30-32, 34, 36, 38-40, 42, 44, 46-48, 50, 52, and 54-63 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishi et al. (US 2001/0004190).

Regarding claims 6, 20, 21, 24, 30, 31, 40, 46, 47, 48, 54-57, 60, 62, and 63, Nishi discloses (see figure 2) a light emitting device and its method of manufacture including, a transparent protrusion (42), a pixel electrode (43), a light emitting layer (45), and a cathode electrode (46) formed over the light emitting layer. The pixel electrode includes a connection portion that is uneven from the remainder of the pixel electrode portion. Further the protrusion is formed of a transparent material (acrylic for instance) and is non-flat in shape.

Regarding claims 7, 10, 22, 23, 58 and 59, Nishi further discloses the use of the light-emitting device in the computer controlled portable phone (see figure 14a).

Regarding the language of the preamble including for example "comprising a main body, a casing, a display portion, and a keyboard..." it is unclear to the examiner how the light-emitting device specifically relates the parts described. Further the parts are not listed in the body of the claim nor does any material in the claim body breath life into the preamble. As such, these elements have not been given patentable weight.

Regarding claims 9, 12, 19, 32, 38, 39 and 61, Nishi further discloses the protrusion being substantially non-flat and being of a different material from the surrounding layers.

For the purposes of examination the examiner defines microlens as any structure having uneven surfaces and being of a material having a refractive index different from the material immediate the uneven surfaces. This structural relationship serves to refract light into converging and diverging beams.

Regarding claim 13, the portable phone disclosed by Nishi inherently and necessarily contains and operation panel, a connection portion, and a power source switch.

Regarding claims 15, 17, 26, 28, 34, 36, 42, 44, 50, and 52, Nishi further discloses (see figure 2), the use of a thin film transistor (202) separated from the pixel electrode by a first insulating film (20) that includes an opening at the gate electrode, and a second insulating film (41) that includes a second opening at the pixel electrode. Wiring connects the various components of the TFT around the first insulating film. Further the films include multiple openings along the length of the device for each TFT element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8, 11, 14, 16, 18, 25, 27, 29, 33, 35, 37, 41, 43, 45, 49, 51, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al. (US 2001/0004190) in view of Shirasaki et al. (US 5,834,894).

Regarding claims 8, 16, and 18, Nishi discloses the device as claimed (see rejections of claims 6, 7, 10, 24, 32, 40, and 48 above), but does not appear to specify the use of a high light absorption film transverse to the protrusions or layer. Nishi does disclose the use of a first and second insulating film (see rejection of claim 15 above). However the light transmission of these films is not known. It is clear that the device is designed to emit light away from the TFT and it is known that light penetration to the TFT is not preferred. Shirasaki, in the same field of endeavor, discloses the use of using a black light absorbing pigments in the insulating layers surrounding the TFT. (Column 9 lines 10-35). The use of a black pigment advantageously prevents light leakage from neighboring cells while increasing device contrast. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the use of a black pigment as taught by Shirasaki into the insulating layers surrounding the TFT as disclosed by Nishi in order to advantageously prevent light leakage from neighboring cells while increasing device contrast.

Claims 11, 14, 25, 27, 29, 33, 35, 37, 41, 43, 45, 49, 51, and 53 are rejected for the same reasons cited in the rejection of claims 8, 16, and 18 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoshizawa (US 6,542,207) discloses the use of an EL device with microlens structures on the EL device.

Forrest et al. (US 6,650,045) discloses the use of lens structures on an OLED.

Levinson (US 4,774,435) discloses the use of protrusions beneath a light-emitting layer.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (571) 272-2454. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mph

NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800